

PN - JP9178091 A 19970711  
PD - 1997-07-11  
PR - JP19950342984 19951228  
OPD - 1995-12-28  
TI - INTERNAL PRESSURE VESSEL AND ITS MANUFACTURE  
IN - SHIKASUMI YASUO;MIYAZAWA HIDEO;URUMA KAZUNOBU;  
MANDOKORO TOSHIO  
PA - ARISAWA SEISAKUSHO KK  
IC - F17C1/16 ; B29C70/06 ; B29K105/08 ; B29K263/00 ; B29L22/00  
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TI - Highly reliable internal pressure container - comprises fibre reinforced resin cylindrical member with end closed by cap fixed by groove  
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PA - (ARIA ) ARISAWA MFG CO LTD  
IC - B29C70/06 ;B29K105/08 ;B29K263/00 ;B29L22/00 ;F17C1/16  
AB - J09178091 The internal pressure container is formed by a fibre reinforced resin while closing one end portion of a cylindrical member (1) by a closing cap (5). A groove (3) for fixing the closing cap is formed near the open end portion of the cylindrical member while locating fibres (2) at the groove portion continuously without cutting. The manufacturing method comprises placing a protruding die (10) for forming the groove on the periphery of a mandrel (30) in a detachable manner, winding fibres with impregnated resin continuously on the mandrel including the protruding die (10) portion, curing the resin, obtaining the cylindrical member by removing the mandrel and the protruding die, and fitting the cap member in the groove.  
- ADVANTAGE - A highly reliable internal pressure container is obtained by preventing interlayer separation.  
- (Dwg.1/6)

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AB - PROBLEM TO BE SOLVED: To prevent layer separation even when internal pressure increases by providing recessed grooves for attaching a sealed cap toward the end part of a cylindrical body and continuously arranging the grooves without cutting fabrics in the recessed groove positions.

- SOLUTION: A protruding type 10 composed of inner, middle and outer types 22, 21 and 20 is attached to a mandrel 30, a glass fiber 2 containing an epoxy resin is continuously wound on the mandrel 30 having the protruding type 10, the epoxy resin is then hardened by heating and released from the mold so as to form a cylindrical body 1. In this case, a recessed groove 3 is formed in the cylindrical body 1 by the protruding type 10 and in the position of the recessed groove 3, the glass fiber 2 is continuously arranged without being cut. Thus, when a sealed cap is provided and sealed while a retainer ring 5b is fitted in the recessed groove 3, even if the terminal pressure of an internal pressure vessel is high, this internal pressure is used as a tensile force for the glass fiber 2 and layer separation is not caused.

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